

## **An Analysis of the Barriers and Benefits to Diversity Inclusion in North Carolina Secondary Agricultural Education Curricula**

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### **Abstract**

The purpose of this study was to analyze the attitudes of North Carolina secondary agricultural education teachers toward increasing diversity inclusion in North Carolina secondary agricultural education programs. Overall North Carolina agricultural educators found diversity to be of great value, additionally it was perceived that it aided agricultural education students in character and leadership skill development. Respondents perceived that diversity in agricultural education could improve the critical thinking skills of agricultural students. Guidance counselors and the perception of agriculture itself were seen as major influences upon diversity inclusion in agricultural education. Recommendations included preservice multicultural training, reflective diversity teaching practices, establishing collaborative relationships with guidance counselors, and the creation of diversity evaluation plans.

## Introduction

The United States is one of the most ethnically and culturally diverse nations in the world (Spears, Oliver, & Maes, 1990). Even so, the differences among people can delight, puzzle, disturb, and sometimes even overwhelm one (Macionis, 1997). According to Spears, Oliver, and Maes (1990), these circumstances hold implications for education, even in places where the local population is not very diverse. The Census Bureau Report (1992) predicted that the white population of the United States, at 75% as of 1990, would shrink to 52.7% by 2050. Hispanics are expected to increase from 9% (24.1 million) to 21% (80.7 million). Asian/Pacific Islanders, who currently account for 2.8% (7.5 million), are expected to constitute 10.1% (38.8 million). African Americans, who make up 11.8% (32 million) of the population at present, will increase to 15% (57.3 million). The Native American population will nearly double, from 2.2 million to 4.08 million (Census Bureau Report, 1992). In some cities, these projections are already a reality. Because the United States is a multicultural society, citizens need to understand and respect one another, both as individuals and as members of ethnic minority distinct groups (Grant & Sleeter, 1989). The aforementioned demographic characteristics will have major implications among America's public school system (Klauke, 1989). As the nation's ethnic minority diversity increases, schools will have to develop ways to create productive, multicultural environments to accommodate diverse student backgrounds and native languages (Klauke, 1989).

According to Foster and Henson (1992) the agricultural industry is the foundation for any society; however, in the United States ethnic minorities and women involvement in the field of agriculture is limited. Various demographic estimates indicate that ethnic minority populations are steadily increasing, and more of these students will need to be recruited into agricultural related careers in order to sustain the agricultural industry for the future and to help ensure that the United States remains competitive in the global economy (USDA Fact Book 1998; Mitchell, 1993). In order for the United States to sustain its current agricultural rank, recruitment of a more diverse workforce must be enhanced, particularly in the area of teaching professionals in secondary agricultural education. Opportunities in agriculture related fields are continuing to expand; but the number of individuals, particularly people of color, is declining continuously on a yearly basis. In order to reverse this trend and alleviate the myths about the agricultural field, the field of education and agribusiness as a whole must acquire an understanding of the motivational factors and rewards that would attract ethnic minorities and women to pursue an agricultural career (Zoldoske, 1996).

Ethnic minorities today face an uncertain future regarding their participation in vocational education (Gordon, 1999). If planned and administered in ways that reflect quality, vocational education is not only an important tool for preparation of ethnic minorities workers, but also a way for America to overcome a growing social and economic crisis, the deterioration of living conditions for many of its citizens (Gordon, 1999). Because of the economic and demographic development in America, there is now a window of opportunity for all ethnic minorities in vocational education (Gordon, 1999). This opportunity will not be realized, however, if basic challenges are not met and resolved by the vocational education community (Gordon, 1999). According to Gordon (1999) it is important to emphasize that

the American vocational education community does have the potential and leadership capabilities to respond to these challenges that could strengthen America's social productivity.

Studies by Marshall (1989), Metzger (1985), Valverde (1988), and Jones and Bowen (1998), which explored the under representation of ethnic minorities in vocational education, suggest that stereotyping, discrimination, constraints imposed by self and family, low career aspirations, lack of confidence and initiative, lack of sponsors and role models are causes for low participation by ethnic minorities.

### **Problem Statement**

During the 2000-01 academic year in North Carolina, there were over 35,000 students enrolled in secondary agricultural education, with Caucasians encompassing 78% of total enrollment, in comparison to African Americans who comprised only 17% of total enrollment. Native Americans and Hispanic Americans made up 4% of the secondary agricultural education student enrollment. According to the North Carolina Department of Public Instruction (2001), of the 35,000 students enrolled in secondary agricultural education, females constituted only 32% of the total enrollment (NCDPI, 2001).

Currently in the State of North Carolina, there are approximately 366 secondary agricultural education teachers. Of this population, 82% consists of white males; ethnic minorities represent only 6% of secondary agricultural education teachers, and women make up 12% (NC DPI, 2001; NC Agricultural Education Directory, 2001). When comparing the percentage of ethnic minority secondary agricultural education students with the number of ethnic minority secondary agricultural education teachers, a disparity exists. Currently, there is one white agricultural teacher for every nine Caucasian students compared to one ethnic minority teacher for every 40 ethnic minority students. With the aforementioned factors in mind, how can diversity inclusion be increased in North Carolina's secondary agricultural education programs? What are the benefits and barriers of diversity inclusion for North Carolina's secondary agricultural education programs? Could perhaps North Carolina secondary agricultural educators provide valuable insight into answering the aforementioned questions?

### **Conceptual Framework**

The conceptual framework for this study is built upon the concept of Inclusion. Inclusion is a philosophy that brings students, families, educators, and community members together to create schools and other social institutions based on acceptance, belonging, and community (Bloom, Permultter, & Burrell, 1999). The concept of inclusion seeks to "establish collaborative, supportive, and nurturing communities of learners that are based on giving all students the services and accommodations they need to learn, as well as respecting and learning from each other's individual differences" (Salend, 2001, p. 5). Inclusion is built upon four major principles: Diversity, Individual Needs, Reflective Practice, and Collaboration.

Diversity improves the educational systems for all students by placing them in general education environments regardless of race, ability, gender, economic status, gender, learning styles, ethnicity, cultural background, religion, family structure, linguistic ability, and sexual orientation. Banks (1994) stated diversity could have a positive impact upon a person's cognitive and personal development because it challenges stereotypes, broadens perspectives, and sharpens critical thinking skills, all needed components in the field of education.

Individual Needs involves sensitivity to and acceptance of individual needs and differences. In the field of education one will constantly encounter individuals of cultural, ethnic, and socioeconomic backgrounds different from their own. When this occurs having an understanding and respect of a person's individual needs greatly benefits the educational environment (Banks, 1994).

Reflective Practice insists that educators reflect upon their attitudes, teaching and classroom management practices, and curricula to accommodate individual needs. Educators must constantly evaluate their daily professional practice in order to optimize the educational learning environment for all of student clientele, irregardless of their respective differences (Banks, 1994).

Collaboration involves groups of professional educators, parents, students, families, and community agencies working together to build effective learning environments (Salend, 2001). Optimal educational environments involve collaborative efforts among all educational stakeholders in order to ensure that the greatest amount of learning can take place for all students (Banks, 1994).

### **Purpose and Objectives**

The purpose of this study was to analyze the attitudes of North Carolina secondary agricultural education teachers toward increasing diversity inclusion in North Carolina secondary agricultural education programs. In order to accomplish the aforementioned objectives, the following objectives were developed:

1. Assess North Carolina secondary agricultural education teachers' perceptions of the benefits of diversity inclusion in North Carolina secondary agricultural education programs.
2. Assess North Carolina secondary agricultural education teachers' perceptions of the barriers of diversity inclusion in North Carolina secondary agricultural education programs.
3. Determine the demographic characteristics of North Carolina secondary agricultural education teachers.

## Methodology

Traditional mail survey methodology, using a three round, one week interval format, in alignment with Dillman's Total Design Method (2000) was utilized to carry out this study. No previously established survey instruments were available for the purposes of this study, therefore an instrument was developed by the researcher after an exhaustive review of literature. The survey instrument consisted of three sections. Part one consisted of 10 statements to measure the benefits of diversity inclusion, part two consisted of 18 statements to measure the barriers of diversity inclusion, and the last section measured various demographic characteristics of North Carolina secondary agricultural education teachers. Content validity was established by a panel of experts of 8 university faculty with research experience in the area of diversity. Face validity and reliability were established during a pilot test of twenty North Carolina agricultural education teachers not included in the final survey population. In order to test the internal consistency reliability of the instrument, the returned pilot tested instruments (7) were analyzed with the aid of Cronbach's alpha according to conventions established by Nunnally (1967) and Davis (1971). The overall correlation coefficient for the instrument was .93. According to Davis (1971) this would indicate a very strong association between variables.

The population for this study consisted of secondary agriculture teachers in North Carolina who were listed in the 2001-2002 North Carolina Agricultural Education Directory (N = 366). Based on Krejcie and Morgan's (1970) formula for a 5% margin of error, a random sample of 180 would be required for a population of this size. As is the nature of survey research a certain loss rate can be expected, in an attempt to achieve the target sample size of 180 a random sample of 210 secondary agricultural education teachers was utilized. A three round mail questionnaire approach was utilized for this study. The first round consisted of North Carolina secondary agricultural education teachers receiving a cover letter from the researcher outlining the purpose of the research, a survey, and a return stamped envelope; these were mailed on February 8, 2002. Teachers were given one week to return the initial survey; this resulted in 63 surveys being returned. The next round consisted of all non-respondents receiving a follow-up letter stressing to them the importance of returning the survey for data analysis purposes and to strengthen the study. This mailing was sent out on February 15, 2002. This resulted in 38 surveys being returned. Non-respondents were again given one week to return the survey. The third round consisted of all nonrespondents receiving all of the items received in the first round, with another week to respond. This mailing was sent February 22, 2002 and yielded 9 surveys being returned. In order to control for nonresponse error Miller and Smith (1983) recommended comparing early to late respondents. Research has shown that late respondents are often similar to nonrespondents. In relation to this study, no significant differences were found. The final return rate was 52%.

## Findings

Respondents were asked their perceptions in relation to 10 statements regarding the potential benefits toward diversity inclusion in North Carolina secondary agricultural education Programs. Table one shows the means, standard deviations, and rankings for the perceived benefits of diversity inclusion as they relate to secondary agricultural education programs in North Carolina. The following Likert scale was utilized for tables one and two: Strongly Disagree, 2= Disagree, 3= Uncertain, 4= Agree, 5= Strongly Agree. For purpose of data analysis, readers should utilize the following specifications when interpreting the aforementioned scale for tables two, three, and four: 1 – 1.49 = Strongly Disagree, 1.50 – 2.49 = Disagree, 2.50 – 3.49 = Uncertain, 3.50 – 4.49 = Agree, 4.5 – 5.0 = Strongly Agree.

*Table 1. Benefits of Diversity Inclusion Table (n = 110)*

<b>Benefits</b>	<b>Mean</b>	<b>SD</b>	<b>Rank</b>
1. There are many benefits for secondary agricultural education with the inclusion of ethnic minorities.	4.50	.67	7
2. There are many benefits for secondary agricultural education with the inclusion of women.	4.54	.67	4
3. Secondary agricultural education provides ethnic minorities with the opportunity for character development.	4.53	.62	5
4. Secondary agricultural education provides women with the opportunity for character development.	4.51	.62	6
5. Secondary agricultural education provides ethnic minorities with the opportunity for leadership development.	4.55	.55	3
6. Secondary agricultural education provides women with the opportunity for leadership development.	4.57	.55	2
7. The inclusion of diverse populations in agricultural education is a benefit for all agricultural education stakeholders.	4.62	.61	1
8. Diversity inclusion can sharpen students' critical thinking skills.	4.34	.80	8
9. Diversity inclusion broadens the perspectives of agricultural students.	4.54	.62	4
10. Diversity inclusion broadens the perspectives of agricultural teachers.	4.55	.58	3

Scale: 1= Strongly Disagree, 2= Disagree, 3= Uncertain, 4= Agree, 5= Strongly Agree.

Agricultural educators in North Carolina approached strong agreement with means of 4.5 or higher on the following 9 statements related to the potential benefits of diversity inclusion: "There are many benefits for secondary agricultural education with the inclusion of women."; "There are many benefits for secondary agricultural education with the inclusion of ethnic minorities."; "Secondary agricultural education provides ethnic minorities with the

opportunity for leadership development."; "Secondary agricultural education provides ethnic minorities with the opportunity for character development."; "Secondary agricultural education provides women with the opportunity for leadership development."; "Secondary agricultural education provides women with the opportunity for character development."; "The inclusion of diverse populations in agricultural education is a benefit for all agricultural education stakeholders."; "Diversity inclusion broadens the perspectives of agricultural students."; "Diversity inclusion broadens the perspectives of agricultural teachers."

The following statement, which reached a level of agreement, concerned the benefit of diversity inclusion in agricultural education as it relates to agricultural education stakeholders: "Diversity inclusion can sharpen students' critical thinking skills."

Respondents were asked their perceptions in relation to 18 statements regarding the potential barriers to diversity inclusion in North Carolina secondary agricultural education programs. Table two shows the means, standard deviations, and rankings for the perceived barriers to diversity inclusion. North Carolina agricultural teachers approached agreement concerning the following 5 statements in relation to the perceived barriers of diversity inclusion: "Stereotypes are a primary reason why ethnic minorities do not enroll in agricultural classes.", "Guidance counselors influence the participation of ethnic minority in agricultural education.", "Guidance counselors influence the participation of women in agricultural education." "The perception of agriculture itself influences the participation of ethnic minorities in agricultural education."; "The perception of agriculture itself influences the participation of women in agricultural education."

The following four statements approached a level of agreement by North Carolina secondary agricultural education teachers: "Prejudicial issues in relation to ethnic minorities by school systems should be addressed."; "Prejudicial issues in relation to women by school systems should be addressed." "Only when students observe staff commitment to providing a fair and representative environment will they feel a sense of school ownership."; "Acceptance by peers is a barrier to diversity inclusion in vocational education."

North Carolina secondary agricultural education teachers were uncertain concerning the following 8 statements in relation to the perceived barriers of diversity inclusion: "A lack of role models hinders the participation of ethnic minorities' inclusion in agricultural education."; "A lack of role models hinders the participation of women's inclusion in agricultural education.", "Stereotypes are a primary reason why women do not enroll in agricultural classes.", "The glass ceiling theory may influence the participation of ethnic minorities in agricultural education.", "The glass ceiling theory may influence the participation of women in agricultural education.", "Acceptance by the community is a barrier to diversity inclusion in vocational education.", "Acceptance by the school administrators is a barrier to diversity inclusion in vocational education.", "Balancing family and a career is a barrier women endure in vocational education."

North Carolina secondary agricultural education teachers disagreed with the following statement, “Sexual harassment may be a factor why women do not enroll in agricultural education classes”.

*Table 2.*  
Barriers of Diversity Inclusion Table (n = 110)

<b>Barriers</b>	<b>Mean</b>	<b>SD</b>	<b>Rank</b>
1. A lack of role models hinders the participation of ethnic minorities' inclusion in agricultural education.	3.47	1.08	10
2. A lack of role models hinders the participation of women's inclusion in agricultural education.	2.99	1.21	15
3. Stereotypes are a primary reason why ethnic minorities do not enroll in agricultural classes.	3.50	1.18	9
4. Stereotypes are a primary reason why women do not enroll in agricultural classes.	3.41	1.13	11
5. Guidance counselors influence the participation of ethnic minorities in agricultural education.	3.80	.98	3
6. Guidance counselors influence the participation of women in agricultural education.	3.75	1.04	5
7. The perception of agriculture itself influences the participation of ethnic minorities in agricultural education.	3.89	.90	2
8. The perception of agriculture itself influences the participation of women in agricultural education.	3.72	1.00	6
9. Sexual harassment may be a factor why women do not enroll in agricultural education classes.	2.16	1.11	18
10. The glass ceiling theory may influence the participation of ethnic minorities in agricultural education.	2.85	.83	16
11. The glass ceiling theory may influence the participation of women in agricultural education.	2.82	.86	17
12. Prejudicial issues in relation to ethnic minorities by school systems should be addressed.	3.67	1.14	7
13. Prejudicial issues in relation to women by school systems should be addressed.	3.63	1.15	8
14. Only when students observe staff commitment to providing a fair and representative environment will they feel a sense of school ownership.	3.93	.78	1
15. Acceptance by peers is a barrier to diversity inclusion in vocational education.	3.77	1.01	4
16. Acceptance by the community is a barrier to diversity inclusion in vocational education.	3.24	1.03	12
17. Acceptance by school administrators is a barrier to diversity inclusion in vocational education.	3.04	1.13	14
18. Balancing family and a career is a barrier women endure in vocational education.	3.17	1.24	13

Scale: 1= Strongly Disagree, 2= Disagree, 3= Uncertain, 4= Agree, 5= Strongly Agree.

Table three presents the means, standard deviations, frequencies, and percentages for the demographic and program variables contained in the survey instrument. In relation to age, North Carolina secondary agricultural education teachers reported a mean age of 40. Regarding gender in this study, 87 secondary agricultural education teachers were male and 23 were female. In relation to race or ethnicity, there were 8 Black agricultural education teachers and 102 White agricultural education teachers. However, there were no Hispanic, Native American, and Asian agricultural education teachers reported.

*Table 3.*  
Demographics For North Carolina Secondary Agricultural Education Teachers

<b>Demographics</b>		
1. Age:	Mean = 40	
	<b>N</b>	<b>Percent</b>
2. Gender:		
Male	87	79.1%
Female	23	20.9%
3. <u>Race/Ethnicity:</u>		
Black	8	7.3 %
White	102	92.7 %
Hispanic	0	0 %
Native American	0	0 %
Asian	0	0 %
4. <u>Highest Degree:</u>		
Bachelor's	74	67.2%
Master's	32	29.1%
Specialist	4	3.7 %
	<b>Mean</b>	<b>SD</b>
5. Number of years teaching:	11.59	9.75
6. Number of Hours in Diversity Training:	3.67	5.67

Agricultural teachers in this study were asked to provide their highest level of education attained. Seventy-four North Carolina agricultural education teachers held bachelor degrees. Thirty-two North Carolina agricultural education teachers held master's degrees. Four agricultural teachers in North Carolina had earned the specialist degree, and no teachers held a doctoral degree.

Agricultural education teachers in North Carolina had taught secondary agriculture an average of 12 years. Lastly, agricultural teachers in this study were asked how many hours of training they had taken in the area of diversity inclusion in the past five years. North

Carolina agricultural teachers had taken a mean of four hours of training in the area of diversity inclusion.

### **Conclusion**

1. Overall agricultural educators saw the value of diversity inclusion in North Carolina secondary agricultural programs. With the increasingly multicultural society it is imperative that agricultural educators recognize the value of diversity of all kinds, as student clientele change.
2. Agricultural educators indicated that agricultural education can aid in the development of character and leadership skills in minorities and women, skills that are needed in order to compete in an increasingly global society. This is direct alignment with the goals of the National FFA Organization which holds character development and leadership development as two of its main cornerstones (National FFA Organization, 2000). Agricultural education could perhaps increasingly address the “individual needs” of minority students in these areas.
3. Participants perceived that diversity in agricultural education could improve the critical thinking skills of agricultural students. Perhaps diversity in agricultural education is a valuable tool that can aid in the development of this “individual need” of all students.
4. Role models were not seen as a barrier to diversity inclusion in secondary agricultural education. This is direct contrast to studies by Marshall (1989), Metzger (1985), Valverde (1988), and Jones and Bowen (1998) which indicated the lack of role models being a significant barrier to diversity in vocational education.
5. Stereotyping was seen as a barrier to minority participation in agricultural sciences courses, but not for women. This finding was particularly interesting considering that agricultural education has traditionally been a male dominated discipline. Perhaps the role of women in agricultural education has changed from the traditional role of limited participation, to increased involvement.
6. Guidance counselors were seen as major influences upon increasing the participation of women and minorities in agricultural education. The “collaboration” principle of the concept of Inclusion calls for educational stakeholders such as school officials to work together to build effective learning environments for all students (Salend, 2001). Guidance counselors can have a great influence upon the career aspirations of students, particularly ones considering agricultural education as a career.
7. The perception of agriculture itself was perceived to be a barrier to the participation of women and minorities in agriculture. Agriculture traditionally has been perceived as a labor intensive industry, particularly with historically negative connotations in minority communities. Perhaps if women and minorities are introduced to the wide

array of career opportunities in agriculture, perceptions of the industry could possibly change, leading to increased participation.

8. Agricultural educators stated that overall prejudicial issues should be addressed regarding diversity, which directly reflects studies conducted by Marshall (1989), Metzger (1985), Valverde (1988), and Jones and Bowen (1998). Research has shown that diversity could have a positive impact upon a person's cognitive and personal development, factors that are of great importance in the development of agricultural education students.
9. It was perceived that acceptance by the community and school administrators were not major barriers to diversity inclusion, in contrast to studies conducted by Marshall (1989) and Metzger (1985) which found these groups to be major influences upon vocational education diversity. Agricultural education like other educational branches has traditionally been influenced by external groups, perhaps the agricultural education teachers in this study have good working relationships with these groups and should continue to foster them.

### **Recommendations**

1. Preservice agricultural education programs in North Carolina should have a strong emphasis in the area of multicultural education and diversity training. By implementing diversity training into preservice training programs, new agricultural education teachers would be competent and have the skills needed to prepare students for the highly diverse world of work.
2. North Carolina secondary agricultural education teachers should encourage increased diversity in their programs, a component that could encourage better problem solving skills and overall character development for their students.
3. North Carolina secondary agricultural education teachers should develop an evaluation plan in order to identify the impact that diversity inclusion has had on their respective programs.
4. North Carolina secondary agricultural education teachers should analyze and reflect on old teaching practices, and incorporate new ideas that would increase ethnic minority and women representation in their secondary agricultural education programs.
5. North Carolina secondary agricultural education teachers should strive to mentor and provide all their students with positive role models involved in the professional arena of agriculture.

6. Agricultural educators could establish collaborative relationships with guidance counselors in order to encourage greater diversity inclusion in their respective programs.
7. More minority and female teachers should be recruited to reflect the population of students in the public schools.

### **Recommendation For Further Research**

1. A longitudinal study should be conducted upon beginning agricultural education teachers to gauge whether the multicultural education and diversity training that they receive in their preservice programs has an impact upon their daily pedagogical practice.

### **Implications**

Diversity is a trend in the United States cultural landscape that is here to stay. In order for American public school systems to face the challenges that a more diverse population of students brings, multicultural education must become a priority in teacher training and daily practices. The discipline of agricultural education is no exception, for a field that has traditionally been white male dominated, pedagogical changes to address cultural differences will become a way of life. If the purpose of education according to Grant (1978) is to prepare individuals to function in an ethnically and culturally diverse world, then how will agricultural education as a profession respond? Agricultural educators not only in North Carolina, but on a national scale must address this question.

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